**THE UNITED STATES PATENT AND TRADEMARK OFFICE**Applicants : Mark A. EMALFARB *et al.*

Serial No. : 09/284,152

Group Art Unit : 1652

Filed : June 3, 1999

Examiner : C. FRONDA

For : CHRYSOSPORIUM CELLULASE AND METHODS OF USE

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1/13/01**INFORMATION DISCLOSURE STATEMENT**COMMISSIONER OF PATENTS
Washington, D.C. 20231Date Recd: 01/08/2001
Date Recd: 01/08/2001
FC: 704
\$60.00

Sir:

This Information Disclosure Statement is filed in accordance with 37 C.F.R. §§1.56, 1.97 and 1.98. The items listed on Form PTO-1449, a copy of which is enclosed, may be deemed to be pertinent to the above-identified application and are made of record to assist the Patent and Trademark Office in its examination of this application.

Reference A (GB 2 094 826) describes detergent compositions comprising cellulases from *Trichoderma* and *Aspergillus*. A long list of other organisms which produce cellulases is provided; *Chrysosporium lignorum* appears at page 5, line 43. The authors claim that "any cellulase" can be used in the disclosed compositions (page 3, lines 31-33).

Reference B (EP 0 220 016) describes a method for restoring the appearance of colored fabrics by treating them with cellulase. Preferred cellulases are those obtained from *Humicola insolens*, *Sporotrichum pulverulentum*, *Fusarium oxysporum*, and *Trichoderma reesei*. The *Humicola* and *Fusarium* cellulases are stated to be suitable for use at alkaline pH (page 2, lines 46-58). The *S. pulverulentum* cellulase is stated to have an acidic pH optimum (page 2, lines 50-51); this is relevant to the present application in that *S. pulverulentum* was at one time regarded as a species of *Chrysosporium*.

Reference C (Reese *et al.*) describes the detection of β -D-1,3 glucanase and β -D-1,4 glucanase (cellulase) activities in culture filtrates of various fungi. Among the fungi examined is *Sporotrichum pruinosum*, which was later reclassified as *Chrysosporium pruinosum*. Cellulase activity derived from this species is described on page 175, Table 1; page 178, text and Fig. 1B; and page 179, Table IV. The cellulase assay is said (p. 174, fifth paragraph) to be that of Mandels *et al.* (reference D).

Reference D (Mandels *et al.*) describes the cellulase assay employed by Reese *et al.* (Reference C), and indicates that the assay is conducted at pH 5.4 (see p. 270, col. 1, second paragraph).

Reference E (Oberson *et al.*) compare the cellulase activity of a variety of fungi; among the fungi are *Chrysosporium thermophilum* and *Chrysosporium fegrusii* (p. 307, Fig. 1; p. 308, Table 2). The authors indicate that *C. thermophilum*, which had formerly been classified as *Sporotrichum thermophile*, has been re-classified and is

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now regarded as belonging to the genus *Myceliophthora* (p. 303, col. 1, first paragraph). *C. fergusii* is stated to secrete very little cellulase activity (p. 311, col. 2, lines 6-8). The RBB-CMC cellulase assay is stated (p. 305, col. 1, center of page) to be that of Canevascini *et al.* (Ref. F).

Reference F (Canevascini *et al.*) describes the cellulase assay employed by Oberson *et al.* (Ref. E), and indicates that the assay is performed in an acetate buffer at pH 5.0 (see page 1072, col. 2, last full paragraph).

Reference G (Flanagan and Scarborough) describes various fungi isolated from Alaskan tundra. The fungi were tested for the ability to utilize cellulose as a carbon source at pH values ranging from 4.5 to 7.0 (p. 161, second full paragraph). Among the fungi isolated at Point Barrow were *Chrysosporium pruinsum* and *Chrysosporium merdarium*, which were "positive" for ability to grow on cellulose (p. 163, Table 1; p. 167, Table 2). A variety of *C. pannorum* from three other sites tested "negative" in this assay (p. 168, Table 3; p. 170, Table 4; p. 171, Table 4; p. 177, Table 5). The authors do not indicate at which pH the positive results were obtained, but they note that tests on 50 fungi have shown that pH optima for 60% of arctic fungal cellulases fall between 4.5 and 5.0 (p. 173, first full paragraph) and that the majority of tundra fungi have growth optima in the pH range 4.5 to 6.5 (p. 179, last paragraph).

The Examiner is respectfully requested to fully consider the items and to independently ascertain their teaching.

1. ☐ For each of the following items listed on the enclosed copy of Form PTO-1449 that is not in the English language, an English language translation of that item or a portion thereof or a concise explanation of the relevance of that item is enclosed: _____.
2. ☐ For each of the following items listed on the enclosed copy of Form PTO-1449 that is not in the English language, a concise explanation of the relevance of that item is incorporated in the specification of the above-identified application.
3. ☐ Any copy of the items listed on the enclosed copy of Form PTO-1449 that is not enclosed with this Information Disclosure Statement was previously cited by or submitted to the Patent and Trademark Office in application Serial No. _____, filed _____.
4. ☐ No fee is due under 37 C.F.R. §1.17(p) for this Information Disclosure Statement since it is being filed in compliance with:
 - ☐ 37 C.F.R. §1.97(b)(1), within three months of the filing date of the above-identified application for filing date of the continued prosecution application filed on _____; or
 - ☐ 37 C.F.R. §1.97(b)(2), within three months of the date of entry into the national stage as set forth in §1.491 in an international application; or
 - ☐ 37 C.F.R. §1.97(b)(3), before the mailing date of a first Office Action on the merits, whichever event occurred last.
5. ☐ No fee is due under 37 C.F.R. §1.17(p) for this Information Disclosure Statement since it is being filed in compliance with 37 C.F.R. §1.97(c), after the period specified in paragraph 4 above but before the mailing date of a final action or a Notice of Allowance (where there has been no prior final action), and is accompanied by one of the certifications pursuant to 37 C.F.R. §1.97(e) set forth in paragraph 9 below.

6. ☒ A fee is due under 37 C.F.R. §1.17(p) for this Information Disclosure Statement since it is being filed in compliance with 37 C.F.R. §1.97(c), after the period specified in paragraph 4 above but before the mailing date of a final action or a notice of allowance (where there has been no prior final action):

☒ A check in the amount of \$240.00 is enclosed in payment of the fee.

☐ Charge the fee to Deposit Account No. 13-4500. Order No. _____. A
DUPLICATE COPY OF THIS SHEET IS ATTACHED.

7. ☐ A fee is due under 37 C.F.R. §1.17(i)(1) for this Information Disclosure Statement since it is being filed in compliance with 37 C.F.R. §1.97(d), after the mailing date of a final action or a notice of allowance, whichever comes first, but before payment of the issue fee, and is accompanied by:

- a. ☐ one of the certifications pursuant to 37 C.F.R. §1.97(e) set forth in paragraph 9 below; and
- b. ☐ the attached petition requesting consideration of this Information Disclosure Statement; and
- c. ☐ the fee due under 37 C.F.R. §1.17(i)(1) which is paid as set forth in paragraph 10 below.

8. ☐ A fee is due under 37 C.F.R. §1.17(i)(1) for this Information Disclosure Statement since it is being filed in compliance with:

- a. ☐ 37 C.F.R. §1.313(b)(3), after the issue fee has been paid and information cited in this Information Disclosure Statement may render at least one claim unpatentable and is accompanied by the attached Petition To Withdraw Application From Issue;
- b. ☐ 37 C.F.R. §1.313(b)(5), after the issue fee has been paid and information cited in this Information Disclosure Statement is to be considered in a Continuation application upon abandonment of the instant application and is accompanied by the attached Petition To withdraw Application From Issue.
- c. ☐ The fee due under 37 C.F.R. §1.17(i)(1) is paid as set forth in paragraph 10 below.

9. ☐ I hereby certify that each item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.

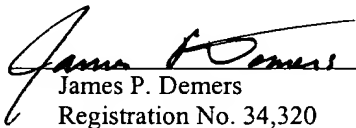
☐ I hereby certify that no item of information in the Information Disclosure Statement filed herewith was cited in a communication from a foreign patent office in a counterpart foreign application or, to my knowledge after make reasonable inquiry, was known to any individual designated in §1.56(c) more than three months prior to the filing of this Information Disclosure Statement.

10. ☐ A check in the amount of \$130.00 is enclosed in payment of the fee due under C.F.R. §1.17(i)(1).

☐ Charge the fee due under C.F.R. §1.17(i)(1) to Deposit Account No. 13-4500. Order No. _____. A DUPLICATE COPY OF THIS SHEET IS ATTACHED.

Respectfully submitted,

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Dated: December 29, 2000

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